UNITED STA[redacted] DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/[illegible]	12/07/95	[illegible]EAVES	J 4522470/6974

EXAMINER	
[illegible]ATE,C	
ART UNIT	**PAPER NUMBER**
1651	7

HM22/0106

KENT A HERINK
DAVIS BROWN KOEHN SHORS AND ROBERTS
SUITE 2500
666 WALNUT STREET
DES MOINES IA 50309

DATE MAILED: 01/06/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/206,458	Applicant(s) Greaves et al.
	Examiner Christopher Tate	Group Art Unit 1651

X Responsive to communication(s) filed on *Nov 8, 1999*.

This action is **FINAL.**

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

X Claim(s) *1-26* is/are pending in the application.

Of the above, claim(s) *24-26* is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

X Claim(s) *1-23* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

X See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

X Notice of References Cited, PTO-892

X Information Disclosure Statement(s), PTO-1449, Paper No(s). *4*

☐ Interview Summary, PTO-413

X Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Applicant's election without traverse of Group I, claims 1-23, in Paper No. 6 is acknowledged. Claims 1-23 are presented for examination on the merits.

Claim Objections

Claim 2 is objected to because of the following informalities:

Abbreviations in the first instance of the claims ("HFC") should be expanded upon with the abbreviation indicated in parentheses. The abbreviations can be used thereafter.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the products" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claims 1, 19, and 20 are rendered vague and indefinite because the final step of each makes it unclear if one or more than one isolated product is obtained. For example, the recitation "to isolate" (step c of each) does not define whether the elements recited therein are actually isolated or not - i.e., are the two natural components of claims 1 and 20, and/or the molecules and essential oils of claim 20 isolated as a single entity or are they separately isolated? A final step detailing the individual isolation of each desired component (defining how the isolations are achieved) is deemed to be an essential step and, thus, needs to be adequately defined in the instantly claimed processes.

Claim 19 is also rendered vague and indefinite by the phrase "molecules having polarity comparable to antioxidants and essential oils" (lines 1-2) for two reasons. The first being that this phrase is somewhat unclear and confusing because it could be construed as meaning the molecules have a polarity that is comparable to both antioxidants and essential oils. Secondly, the term "molecules" is not typically used in the plant/herbal extraction art to define components extracted therefrom. The term "molecules" denotes much smaller, atomic size elements than those that would be obtained using the instantly disclosed process and, therefore, is misleading and confusing. Accordingly, it is suggested that the word "molecules" (recited three times in claim 19) be omitted and replaced with "polar components" and that the singular recitation, "polarity", in the phrase above be changed to the plural form, --polarities-- for grammatical clarity.

All other claims depend directly or indirectly from rejected claims and are, therefore, also rejected under USC 112, second paragraph for the reasons set forth above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 9, 10, 12-14, and 19-23 are rejected under 35 U.S.C. 102(a) as being anticipated by Nicola (GB 2,324,050).

A process for extracting a first and second component from an organic/botanical material comprising contacting the material with a blend of solvents, such as tetrafluoroethane and others, removing the organic material from the solution of components, then removing the solvent blend (e.g. via evaporation) therefrom is claimed.

Nicola teaches a method of extracting one or more compounds including polar components from organic materials such as botanical materials using a mixture of tetrafluoroethane and one or more cosolvents, wherein the cosolvents can be methanol and/or acetone, among others. Nicola discloses contacting the organic material with the solvent mixture, transferring the solvent extract into an evaporator flask (thus, removing the organic material therefrom), and evaporating the solvent blend to obtain the desired product containing one or more polar components, including a botanical oil product from *Rosemarinus officinalis* (see, e.g.,

page 1, lines 8-22, page 3, lines 10-33, page 4, lines 1-31, page 5, lines 11-26, page 6, lines 13-30, the Examples on pages 7-11, and claims). The final isolated products disclosed by Nicola would inherently contain the two or more components instantly claimed. Other claimed functional limitations would also inherently be met by the cited reference.

Therefore, the reference is deemed to anticipate the instant claims above.

Claims 1-6, 12-15, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Powell et al. (WO 95/26794).

Powell et al. teach a method of extracting a natural product (e.g., flavored/edible oils and aromatic oils) from organic materials such as botanical materials using a mixture of tetrafluoroethane and one or more cosolvents, wherein the cosolvents comprise butane, among others. Powell et al. disclose contacting the material with the solvent mixture, removing the material therefrom, then removing the solvent blend via evaporation and distillation to obtain the desired product (see, e.g., pages 2, 4-5, 7-8, Examples, and claims). The final isolated products disclosed by Powell et al. would inherently contain the two or more components instantly claimed. Other claimed functional limitations would also inherently be met by the cited reference.

Therefore, the reference is deemed to anticipate the instant claims above.

Claims 1 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al. (USP 4,380,506).

Kimura teaches a method of effectively obtaining polar antioxidant compounds from botanical materials using a mixture of solvents including acetone, methanol and hexane mixtures, wherein the botanical material is contacted with the solvent mixture, the botanical material is removed (filtered off), and the solvent blend is then removed via distillation (see, e.g., col 4, lines 3-53, col 5, lines 1-37, col 6, lines 47-52, cols 8-9, Example 2, and claims). The final isolated products disclosed by Kimura would inherently contain the two or more components instantly claimed. Therefore, the reference is deemed to anticipate the instant claims above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nicola in view of Kimura et al.

The cited references are relied upon for the reasons set forth above.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to obtain botanical compounds such as disclosed by Nicola by further including various other art-accepted cosolvents such as those taught by Kimura et al. to effectively obtain desired compounds and/or oils therefrom for the benefits disclosed therein. Adapting and choosing particular mixtures and amounts of such cosolvents and employing particular conventional working conditions (e.g., evaporation via the film evaporation techniques claimed or using art-recognized column distillation to distill the organic solvents therefrom) are deemed merely matters of judicious selection and routine optimization which are well within the purview of the skilled artisan.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. and Kimura et al.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to obtain botanical compounds such as disclosed by Powell et al. by further including various other art-accepted cosolvents such as those taught by Kimura et al. to effectively obtain desired compounds and/or oils therefrom, including from rosemary (*Rosemarinus officinalis*) as also taught by Kimura, for the benefits disclosed therein. Adapting and choosing particular mixtures and amounts of such cosolvents and employing particular conventional working conditions (e.g., evaporation via the film evaporation techniques claimed or using art-recognized column distillation to distill the organic solvents therefrom) are deemed merely matters of judicious selection and routine optimization which are well within the purview of the skilled artisan.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Conclusion

No claim is allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Tate whose telephone number is (703) 305-7114. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn, can be reached at (703) 308-4743. The Group receptionist may be reached at (703) 308-0196. The fax number for art unit 1651 is (703) 308-4242.

Christopher R. Tate
Patent Examiner, Group 1651
January 4, 2000